Know Thyself

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ABSTRACT—*Self-knowledge has never been a central topic in empirical psychology. There are pockets of research on self-knowledge in different subdisciplines of the field, but until now there has been little communication between them. I believe that these areas will converge in the next few years into a cohesive study of how people form judgments about their past, current, and future selves and about the accuracy of these judgments. I discuss theoretical developments in this area, the costs of poor self-knowledge, how people can know themselves better, and some of the obstacles to the study of self-knowledge.*

One of the most interesting problems in psychology, in my opinion, is self-knowledge: how people form beliefs about themselves. This problem is so important that I have studied it for much of my career. Or wait—is it the other way around? Maybe I think self-knowledge is an important topic because I have spent so much time studying it. The fact that I am unsure of the answer to this question illustrates my basic point: Self-knowledge is hard to acquire and is not always correct.

One might think that "Know thyself" would be a central theme in psychological science. Certainly the average person on the street thinks of it as the sine qua non topic of psychology. A desire to figure themselves out is what draws many college students to our introductory-level courses. They are quickly disabused of this notion; few intro courses spend much time on the topic (neither "self-knowledge" nor "self-insight" are major topics in intro psych texts). That's not entirely a bad thing; part of the fun of teaching intro courses is opening students' eyes to the many important topics they never knew existed.

But the fact is we have a lot to say about the nature of self-knowledge and its limits. Why have we shied away from doing so? There are few courses on self-knowledge, and no journals or learned societies devoted to the topic. Perhaps the long shadow of psychoanalysis has made empirically minded psychologists reluctant to address questions about how well we know ourselves. Or maybe it is just that these questions are hard to address empirically. If so, these obstacles no longer exist. We have

moved far beyond psychoanalytic theory and should put behind us any lingering Freudophobia (the fear of becoming mired in wishy-washy ideas that are impossible to test). Methodological advances have put new tools at our disposal. I think we are in a position to integrate diverse areas of research into a unified field of inquiry.

WHAT IS THE FIELD OF SELF-KNOWLEDGE?

For the most part, the study of self-knowledge has focused on the accuracy of introspection about one's own internal states (e.g., attitudes, beliefs, emotions, traits, motives). But the topic can be construed more broadly to include questions of memory (recalling one's past internal states) and prospection (predicting one's future internal states). Knowing who we were, who we are now, and who we will be in the future are all important facets of self-knowledge.

One reason that self-knowledge has not been a cohesive topic in psychology is that research in these areas is spread across subdisciplines of the field. Table 1 displays examples of how six areas of psychology have investigated people's knowledge about their past, present, and future selves. The list is arbitrary; no doubt, I have left off important areas of inquiry. It illustrates, however, how researchers in different disciplines are conducting research relevant to self-knowledge, often with little communication or cross-fertilization.

The list illustrates some interesting gaps in research. For example, one might think that self-knowledge would be a central topic in personality psychology, but there has not been much research on how people come to discern their own traits and the accuracy of this knowledge—possibly because doing so would be admitting that people can have traits of which they are unaware (see Freudophobia above). The components of the study of self-knowledge are there, such as research on people's idiographic "if–then" construals of situations (Mischel, Shoda, & Mendoza-Denton, 2002) and research on the narratives and life stories that people construct about themselves (e.g., McAdams, 2001). The former type of personality construct is thought to be largely nonconscious and difficult to verbalize, whereas the latter is thought to be conscious and relatively easy to verbalize. A fruitful line of inquiry would be to connect these separate lines of research, examining how well people's conscious narratives capture their nonconscious construals.

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TABLE 1

Areas of Inquiry Into Self-Knowledge

Subdiscipline	Past knowledge (accuracy of recall of one's past self)	Present knowledge (accuracy of judgments about one's present self)	Future knowledge (accuracy of predictions about one's future self)
Social psychology	• Accuracy of recall of one's past attitudes and/or abilities (Ross, 1989) • Accuracy of recall of past affective reactions (Robinson & Clore, 2002)	• Limits of introspection (Nisbett & Wilson, 1977) • Automaticity of social cognition (Bargh, 1994) • Dual process theories of attitudes and information processing (see text for references)	• Affective forecasting (Gilbert & Wilson, 2007; Wilson & Gilbert, 2003) • Planning fallacy (Buehler, Griffen, & Ross, 1994) • Temporal construal theory (Trope & Liberman, 2003)
Personality psychology	• Models of conscious narratives about the self (e.g., McAdams, 2001)	• Models of nonconscious construals of self and situations (e.g., Mischel et al., 2002) • Models of conscious narratives about the self (e.g., McAdams, 2001) • Implicit and explicit measures of personality traits (e.g., Asendorph et al., 2002) • Comparisons of self-reports and peer reports of personality (e.g., Vazire and Mehl, 2008)	
Cognitive psychology	• Models of implicit and explicit memory (e.g., Schacter, 1996) • Reconstructive memory (McNally, 2003)	• The new look (Bruner & Goodman, 1947) • Models of implicit and explicit learning (e.g., Reber, 1993)	• Psychology of prediction (e.g., Kahneman & Tversky, 1979)
Developmental psychology	• Autobiographical memory in childhood (Howe, 2004)	• Development of self-knowledge (Ferrari & Sternberg, 1998) • Children's understanding of their own and others' minds (e.g., Mitchell & Neal, 2005)	
Clinical psychology	• Repression (Erdelyi, 2006)	• Awareness of own personality disorders (Oltmanns & Turkheimer, 2006) • Alexithymia (Helmes, McNeill, Holden, & Jackson, 2008)	• Predictions of future fear and panic (Rachman, 1994)
Neuroscience	• Neural basis of autobiographical memory (e.g., Rubin, 2005)	• Effect of neurological damage on self-knowledge (Gazzaniga & LeDoux, 1978) • "Liking" versus "wanting" (Berridge & Robinson, 2003)	• Neural processes involved in simulating the future (Schacter, Addis, & Buckner, 2007)

Researchers are beginning to look at these connections, such as Asendorpf, Banse, and Mücke's (2002) research on dissociations between implicit and explicit measures of extraversion, and Vazire and Mehl's (2008) research on whether actors or their acquaintances can best predict the actors' daily behaviors. These exciting lines of research have the potential to answer age-old questions about how well people know themselves (see Wilson, 2002, for a more complete discussion of self-knowledge and personality research).

There are also gaps in Table 1 in the "future knowledge" column. For example, I am unaware of any research on how well people can predict how their personalities will change as they age. Adult personality develops across the life span (Roberts & Mroczek, 2008), yet there is little research on whether people anticipate these changes. If they do not, they might make choices based on their current traits, dispositions, and preferences that are not well suited for their future traits, dispositions, and preferences. For example, Oishi, Whitchurch, Miao, and Kurtz (2008) found that middle-aged adults were happier in novel settings than they were in familiar settings and predicted that novelty (e.g., a different climate) would be valued more than familiarity (e.g., interactions with family and friends) when choosing a retirement location. However, adults who had already retired were happier in familiar environments than they were in

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novel environments and said that familiarity was more important than novelty when choosing a retirement location. These results suggest that the middle-aged adults were failing to anticipate how their dispositions and preferences would change in the future.

Researchers in the judgment and decision-making tradition have studied the psychology of prediction, notably Kahneman and Tversky's (1979) seminal research and theorizing (e.g., prospect theory). This research has revealed important principles that guide people's predictions about the future, such as loss aversion—the belief that future losses will have a larger impact than will gains of the same magnitude. Loss aversion has been found to influence people's decisions in many important domains, including investing, negotiation, politics, and health (Camerer, 2000; Kahneman & Tversky, 1979; McDermott, 2004). However, this literature has not focused much on the accuracy of such prospective judgments. Recent research suggests that loss aversion might involve an affective forecasting error, because when people actually experience losses, they often find ways of minimizing their impact through rationalization and dissonance reduction (Kermer, Driver-Linn, Wilson, & Gilbert, 2006). That is, people predicted that losses would have a bigger impact on them than gains would, but the losses did not actually have a bigger impact once they occurred. Further inquiries into the accuracy of people's predictions about their future reactions to events are likely to bear fruit.

THEORIES OF SELF-KNOWLEDGE

There are no shortage of theories about self-knowledge. Psychoanalysis is the grandparent of them all, providing a comprehensive explanation of how threatening information is repressed from consciousness. Since then, numerous dual-process theories have been proposed that posit the existence of separate information processing systems, with one of them being much more available to consciousness than the other (e.g., Bargh, 1994; Dijksterhuis & Nordgren, 2006; Epstein, 1991; Gawronski & Bodenhausen, 2006; Gilbert, 1991; Greenwald & Banaji, 1995; Haidt, 2001; Jacoby, 1991; Kahneman & Frederick, 2005; Nisbett & Wilson, 1977; Smith & DeCoster, 2000; Strack & Deutsch, 2004; Wegner, 1994). These theories suggest that Freud may have been too conservative in his characterization of the unconscious. The architecture of the mind is such that a great deal of mental processing occurs outside of conscious awareness, not because thoughts and feelings are threatening to people, but because that is how the mind has evolved to work. The specific theories differ in their descriptions of the exact nature of the two systems (e.g., unconscious, automatic, slow learning, associative, implicit for one; conscious, controlled, fast learning, propositional, explicit for the other). For our purposes, the key distinction is that one system is less available to introspection, and it is up to the other to make conscious inferences about oneself that may or may not be accurate.

These theories typically adopt a more pessimistic outlook on self-knowledge than psychoanalysis, because they view a lack of access to mental processes as part of the architecture of the mind that can't be breached, rather than the results of motivational forces that can be overcome (albeit with difficulty). As argued elsewhere (Wilson, 2002; Wilson & Dunn, 2004), self-knowledge is less a matter of careful introspection than of becoming an excellent observer of oneself and deducing the nature of one's nonconscious dispositions and preferences.

THE CRITERION PROBLEM: WHAT IS THE TRUE SELF AND HOW DO WE MEASURE IT?

To determine the accuracy of people's judgments about their past, present, and future selves, researchers need good measures of people's actual past, present, and future selves. This is relatively straightforward when it comes to memory and prospection. If researchers want to assess the accuracy of people's memories for their past attitudes, for example, they measure people's attitudes at Time 1 and then ask them to recall these attitudes at Time 2 (e.g., Ross, 1989). Similarly, if researchers want to assess the accuracy of people's forecasts about their future affective reactions, they ask them to make a prediction at Time 1 about how they will feel at Time 2, then measure how they actually feel at Time 2 (e.g., Wilson & Gilbert, 2003). These questions concern change over time, and the same dependent measure can be administered at different time points to assess accuracy.

Matters are considerably more complicated when it comes to assessing the accuracy of people's concurrent self-knowledge, because the assumption is that people might have internal states and mental processes of which they are unaware. People's reports about their internal states must be compared with an independent measure of those states, such as implicit measures, nonverbal behavior, or peer reports. Personality researchers, for example, have compared the accuracy of actors' reports of their traits with both behavioral measures and peers' assessments of the actors' traits (e.g., Vazire & Mehl, 2008).

There has been an explosion of research on this topic in social psychology, fueled largely by methodological advances in measures of implicit attitudes such as evaluative priming (Fazio, Jackson, Dunton, & Williams, 1995) and the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998). For example, several studies have found that implicit measures of self-esteem do not correlate highly with explicit measures of self-esteem and that different implicit measures do not correlate very highly with each other (e.g., Jordan, Whitfield, & Zeigler-Hill, 2007; Krizan & Suls, 2008; Sakellaropoulo & Baldwin, 2007). Researchers are attempting to unravel this curious state of affairs, examining such questions as whether implicit or explicit measures correlate more with neurological measures of approach and avoidance (De Raedt, Franck, Fannes, & Verstraeten, 2008) and

whether implicit or explicit measures have higher predictive validity (e.g., of depression or narcissism; Campbell, Bosson, Goheen, Lakey, & Kernis, 2007; Franck, De Raedt, & De Houwer, 2007). But does this mean that people have self-evaluations of which they are unaware? Researchers disagree on the answer to this question (see, for example, Olson, Fazio, & Hermann's, 2007, view that people are aware of their implicit self-esteem). Although it sometimes seems that these questions exceed the ability of our methods to answer them, I have great faith in the methodological creativity of my fellow social psychologists, and I think we will see exciting answers to these questions in the coming years.

One possibility is that answers will come from neuroscience research. Although there have been many exciting advances in our understanding of the brain due to new technologies such as fMRI, we need to be cautious about what neuroscience research can offer psychological theories of self-knowledge. On the one hand, neuropsychological studies enrich our understanding of conscious and unconscious processes by examining the neural correlates of psychological phenomena. For example, Lieberman (2000) pointed out that the phenomenological state of intuition and implicit learning processes both involve activation in the basal ganglia, suggesting a theoretical link between these constructs. On the other hand, it is unlikely that there are specific brain modules that are the seat of "the self," "the unconscious," or "consciousness" (Beer & Ochsner, 2006; Willingham & Dunn, 2003). Thus, a brain localization strategy is unlikely to provide the royal road to the unconscious, definitively establishing the limits of conscious awareness.

DOES SELF-KNOWLEDGE MATTER?

Human beings are the only species (as far as we know) that has the ability to reflect on itself and form metabeliefs about who we are, what happened to us in the past, and what is likely to happen to us in the future. Purely on the basis of intellectual interest, questions about the nature and limits of human consciousness are worth pursuing. But there are also practical reasons to do so. Consider the question of whether there are negative consequences to having poor self-insight. At one extreme, some argue that consciousness is largely epiphenomenal and plays a small or nonexistent role in steering human behavior (see Flanagan, 1992, and Wegner, 2002, for reviews of this position). If so, what difference does it make whether we have any insight into the unconscious processes that are responsible for our behavior? Whether or not we know how a fuel injector works, for example, or even that our car has one, our car still makes it to the grocery store.

But it turns out that there are consequences to failing to understand ourselves. People who exhibit discrepancies between implicit and explicit measures of their self-concepts or motives have been found to be especially low in emotional well-being and especially high in physiological reactivity, anxiety, self-

doubt, defensiveness, and narcissism (Bosson, Brown, Zeigler-Hill, & Swann, 2003; Briñol, Petty, & Wheeler, 2006; Brunstein, Schultheiss, & Grassmann, 1998; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; Schultheiss, Jones, Davis, & Kley, 2008; Shedler, Mayman, & Manis, 1993). As noted by Briñol et al. (2006), "Together, these studies suggest that having discrepant explicit and implicit self-dimensions is associated with numerous consequences that often appear to be negative, unpleasant, or dysfunctional" (p. 156).

HOW CAN WE KNOW OURSELVES BETTER?

It thus seems to be to people's advantage to discover what is under their mental hoods. But how can we do so, when so much of our mental lives is unavailable to introspection? It is not easy, but a number of routes are open to us. First, we can try to be objective observers of our own behavior (Bem, 1972). If we find ourselves making excuses to run into somebody, maybe we like them more than we thought. Second, we can try to see ourselves through the eyes of other people, at least considering the possibility that they have picked up on something about us that we have missed. As sung by Bonnie Raitt, "I hear them whisper, you won't believe it/They think we're lovers kept under covers . . . Maybe they're seeing, something we don't, Darlin'" (Eikhard, 1991).

Finally, we can try to learn about ourselves by reading and assimilating findings from psychological science. Most of us pay attention to medical findings that inform us about our bodies (e.g., that smoking tobacco is harmful), and can learn about our psychological selves in the same way. For example, after the explosion of research on implicit prejudice, how many of us have entertained the idea that we harbor biases of which we are unaware? Just as with medical findings, we can't always be sure that research findings based on other people apply to us. We might want to consider the possibility that they do, however, or complete implicit measures of attitudes and personality that are available on the Web.

In sum, researchers in all areas of empirical psychology are investigating the nature of self-knowledge, and it is my hope that these independent lines of research will coalesce into a coherent topic that makes its way into intro psych textbooks and college curricula. At last, college students who take intro psych might find an answer to their question about navel gazing, even if the answer—that self-knowledge is difficult to obtain and that further introspection might not help—is unwelcome.

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